APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,527	03/07/2001	Thomas Matthew McCann	1322/42/2	7776

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EXAMINER
JACKSON, BLANE J

ART UNIT	PAPER NUMBER
2685	

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/802,527	MCCANN, THOMAS MATTHEW
	Examiner	Art Unit
	Blane J Jackson	2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _07 March 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-53_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-53_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _11 June 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _5/04, 7/03, 11.02, 3/ ə l_ , 01 /o 2

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sjodin (US 6,097,948).

As to claim 1, Sjodin teaches a network element for receiving a signaling

message containing mobile application part (MAP) protocol information and screening

the message based on the MAP protocol information the network element comprising:

A communication module capable of receiving from a communication network

and transmitting to a communication network a signaling message including MAP

information (figure 1, communication module: mobility server (48) of communication

system (10) with MAP interfaces consistent with the GSM system, column 5, lines 34-

54, column 6, lines 35-65 and MAP: column 7, lines 29-45),

A *transaction capabilities application part (TCAP)* screening process for receiving

the signaling message from the communication module and determining whether the

signaling message is a candidate for MAP screening based on at least one SCCP

parameter in the signaling message (figure 6, conventional control stack comprising the

TCAP, SCCP and MTP layers where the screening program is incorporated within the

TCAP, column 10, lines 1-44 and column 11, lines 1-37 and determining screening

candidates: column 12, lines 26-34),

A MAP screening process for in response to receiving the message from the

TCAP screening process, analyzing the MAP information to determine whether

authorization is required for routing the signaling message to a destination node

(column 11, line 40 to column 12, line 55).

Sjodin teaches a communication signaling system network element including a

screening function to screen MAP operations implemented as a separate software

module or as part of the TCAP protocol layer of the conventional protocol stack (column

11, lines 41-44) but is silent as to the screening process utilized in the signaling

connection control part (SCCP) protocol layer. However, since MAP messages are SS7

messages that reside on top of the TCAP and SCCP protocol layers, it would have been

obvious to one of ordinary skill in the art at the time of the invention to alternatively

implement the screening application of Sjodin within the SCCP layer to determine

whether to route the message based on the MAP information.

As to claim 2, Sjodin teaches in response to receiving notification from the MAP

screening process that authorization is required for the signaling message, the SCCP

screening process is adapted to perform authorization screening on the signaling

message based on at least one SCCP parameter in the signaling message (check

parameter procedure, column 12, lines 26-34).

As to claims 3-7, Sjodin teaches a network element to provide screening of

mobility management such as MAP and other signaling messages, column 14, lines 30-

41 and column 13, lines 35-47, where specific cited MAP messages include destination

or origination address information, column 12, lines 35-55, anytime interrogation (ATI)

service and short message service (SMS), applicant's specification, page 2, lines 9-19.

As to claim 8, Sjodin teaches the process is adapted to perform authorization

screening based on a calling party address value in the signaling message (destination

address: column 12, lines 35-46).

As to claim 9 with reference to claim 8, Sjodin teaches the process is adapted to

route the message to the destination in response to determining that the signaling

message passes the authorization screening (column 12, lines 35-55).

As to claim 10 with respect to claim 9, Sjodin teaches the process is adapted to

route the message to an HLR in response to determining that the signaling message

passes the authorization screening (allowed: column 12, lines 51-55 and figures 6 and

8, the message passes through the protocol stack to the MSC and HLR, column 10,

lines 1-7).

As to claim 11 with respect to claim 9, Sjodin teaches the process is adapted to

route the message to an VLR in response to determining that the signaling message

passes the authorization screening (a VLR inherently in the system as depicted in figure 4).

As to claims 12-14 with respect to claim 9, Sjodin teaches a network element to provide screening of mobility management such as MAP and other signaling messages, column 14, lines 30-41 and column 13, lines 35-47, where specific cited MAP messages include destination or origination address information, column 12, lines 35-55, anytime interrogation (ATI) service and short message service (SMS), applicant's specification, page 2, lines 9-19.

As to claim 15, Sjodin teaches the process is adapted to route the message to a database server in response to determining that the signaling message passes the authorization screening (logged to database: column 11, lines 41-61).

As to claim 16, Sjodin teaches the signaling message contains a database query (example of an Invoke request, column 11, line 62 to column 12, line 2).

As to claim 17, Sjodin teaches the signaling message is an SS7 message (column 10, lines 31-44).

As to claim 18, Sjodin teaches the TCAP API interfaces the TCAP with a conventional TCP/IP application, figure 8, column 10, line 62 to column 11, line 7.

As to claims 19 and 20, Sjodin teaches a TCP/IP application to link the protocol

stack and mobility manager (66) where the TCP/IP is any conventional application to

translate between the SS7 from the protocol stack and outside IP addressing scheme,

column 11, lines 8-25.

As to claims 21-23, Sjodin teaches a method for determining whether a signaling

message received by a network routing element should be discarded or routed to a

destination node comprising:

At a first network element, receiving a signaling message containing mobile

application part (MAP) and signaling connection control part (SCCP) information from a

communication network (figure 1 and 6, alternatively includes GSM, PLMN, DECT, PTN

system standard networks, column 5, lines 34-53 and column 10, lines 1-44),

Determining whether the received signaling message satisfies pre-determined

routing requirements by examining at least one of the MAP information and the *TCAP*

information contained in the signaling message (examines the MAP information in the

TCAP protocol layer, before allowing routing determined in the SCCP layer, column 11,

lines 1-37) and

In response to determining that the signaling message satisfies the pre-

determined routing requirements, routing the signaling message to a destination node

(screening operation determines example whether or not to route message through

conventional protocol stack to the SS7 signaling channel based on destination or

origination address, column 12, lines 35-55).

Sjodin teaches a communication signaling system network element including a

screening function to screen MAP operations implemented as a separate software

module or as part of the TCAP protocol layer of the conventional protocol stack (column

11, lines 41-44) but is silent as to the screening process utilized in the signaling

connection control part (SCCP) protocol layer. However, since MAP messages are SS7

messages that reside on top of the TCAP and SCCP protocol layers, it would have been

obvious to one of ordinary skill in the art at the time of the invention to alternatively

implement the screening application of Sjodin within the SCCP layer to determine

whether to route the message based on the MAP information.

As to claim 24, Sjodin teaches where the communication network is an ANSI-41

based network (column 7, lines 29-45).

As to claims 25-29, 32-35 and 42-45, Sjodin teaches a communication network

with a conventional protocol stack including a screening process of MAP parameters to

screen and route cleared messages to a number destinations including a HLR, VLR,

AuC EIR or database server based on standard SCCP information, figures 1-4, column

5; line 41 to column 6, line 49).

As to claim 30, Sjodin teaches a number of destination nodes determined in the protocol stack reading the MAP messages typical to a communications network as taught in claims 25-29 which would inherently include a short message service center (SMSC) where MAP messages include ATI and SMS services, page 2, lines 9-12.

As to claim 31, Sjodin teaches the signaling message contains a database query (example of an Invoke request, column 11, line 62 to column 12, line 2).

As to claims 36, 37 and 41, Sjodin teaches a system with an ability to examine and route a message based on the origination address (column 11, lines 35-55).

As to claim 38, Sjodin teaches the TCAP API interfaces the TCAP with a conventional TCP/IP application, figure 8, column 10, line 62 to column 11, line 7.

As to claims 39 and 40, Sjodin teaches a TCP/IP application to link the protocol stack and mobility manager (66) where the TCP/IP is any conventional application to translate between the SS7 from the protocol stack and outside IP addressing scheme, column 11, lines 8-25.

As to claim 46, Sjodin teaches in response to determining that the signaling message does not satisfy the pre-determined routing requirements, discarding the signaling message (column 11, lines 26-37).

As to claim 47, Sjodin teaches a network communication system that would

inherently provide an error message in the event of a stopped call to the calling party in

various forms well known in the art.

2.   Claims 48-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sjodin (US 6,097,948) with a view to Titus et al. (US 2002/0029189 A1).

As to claims 48-50, Sjodin teaches a system for performing mobile application

part (MAP) screening of signaling messages, the system comprising:

A signaling gateway including a MAP screening module for receiving signaling

messages containing MAP information and determining whether to route the messages

to a destination node based on the MAP information (a screening function included in

the TCAP of a protocol stack of a network element within a communication system to

control message routing based on monitored MAP messages, column 11, line 1 to

column 12, line 34).

Sjodin does not teach a MAP billing system operatively associated with the

signaling gateway for generating billing information based on the number of messages

routed by the MAP screening module.

Titus teaches a prepaid server for use by wireless carriers and Internet service

providers or information content delivery services for the purpose of applying real-time

billing charge for each message request, paragraphs 26-34, 36 and 55. Titus

specifically teaches the prepaid server of figure 2 equipped with a SS7 interface to

receive trigger messages from a SMSC to determine billing based on each message request, paragraphs 36-43.

It would have been obvious to one of ordinary skill in the art at the time of the invention to recognize the MAP messages screened by Sjodin would be used by the billing server of Titus to appropriately bill the system user.

As to claims 51-53, Sjodin teaches the MAP screening module is adapted to perform screening for conventional MAP operations, column 13, lines 36-47, including location and subscriber state ATI queries, information about the origination and destination address and the results of the screening may be logged into an appropriate database, column 11, lines 41-61, but is silent as to a billing system adapted to generate billing records based on the number of ATI queries routed by the MAP module.

Titus teaches a prepaid server compatible to wireless carrier networks, figures 1 and 2, paragraph 55 to initiate billing for each use of network services including short message servicing centers, prepaid and web gateway application and prepaid Internet access. It would have been obvious to one of ordinary skill in the art at the time of the invention to recognize various MAP messages as screened by Sjodin to trigger the billing server of Titus for billing for various message services provided to the communication network users.

Conclusion

3.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. McConnell et al. (US 2002/0015403 A1) discloses a gateway with

an adaptation layer and an HTTP client with an event manager to capture events

including billing. Hamann et al. (US 6,757,745) discloses a controllable network element

operating as a server with functionalities including a firewall, access check and filters.

Boltz (US 6,311,055) discloses an intelligence network node with screening lists for call

control. Kung et al. (US 6,775,267) discloses a telephone network adapted for

broadband access and billing for use with IP based system infrastructure. Curry et al.

(US 6,233,234) discloses an access gateway between a telephone network and a

packet switched data network, the Internet. Allison et al. (US 2003/0083078) discloses a

routing node with SMS message discrimination module to control unwanted SMS
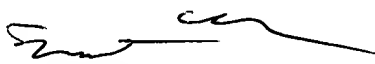
messages.

4.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Blane J Jackson whose telephone number is (703) 305-

5291. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00

PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Edward Urban can be reached on (703) 305-4385. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the
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